Location of the plot

Municipality	1023 Crissier VD (Switzerland)
Owner	BrainServe SA
Sole use of the site	Housing of computing and telecom equipment
Total surface area	6'432 m^2
Accessibility by highway	about 1'300 m
Car park	in the vicinity and on site
Public transport	bus stop about 100 m away
Expansion potential	on own and adjacent plots

Characteristics of the building

Year of construction	2010
Owner	BrainServe SA, all interior and exterior installations included
Volume of building	about 22'000 m^3
Deliveries	loading bay for heavy trucks (40 t), hoist (4 t)
Structure	concrete, complies with SIA paraseismic standards (class 2 work), 4 floors, no external windows
Static load	2'000 kg/m^2 (raised floor) in the housing rooms
Height	260-270 cm in the housing rooms (excluding false floor)
False floor	60-70 cm in the housing rooms
Available areas (non-adjacent to the external walls)	- housing rooms: 2'000 m^2 - telecom rooms: 100 m^2 - storage and safe areas: 100 m^2 - communal work spaces: 65 m^2 - technicians' and BCP workplaces: 1'400 m^2 in the immediate vicinity of the site

Risk analysis

Civil risks	✓ area not prone to social disturbances, no potential target in the vicinity (terrorism, burglary)
Natural risks	✓ site not in a zone that is liable to flooding or at risk (landslide, forest fire, rock fall or avalanche), nor is there any particular climatic or seismic risk
Industrial risks	✓ inoffensive industrial and tradesmen's zone (near to schools and residential area), no dangerous site in the vicinity (explosion, fire, contamination, vibration)
Risks related to transport	✓ no particular accident danger close to the site (road, rail or air)
Electromagnetic risks	✓ no potential source of interference in the vicinity (e.g. radio or satellite installations, airport, electric rails)

Physical safety: access, fire and water

Perimeter	✓ enclosed (min. height 3.5 m), patrols
Building	✓ secure reception, single-file double doors, biometric access control system with logging
Monitoring audio/video	✓ interior and exterior monitoring with logging
Intrusion detection	✓ zonal coverage, access-door monitoring at the various containment levels, detection inside and outside the building
Containment	✓ 5 levels
Security personnel	✓ 24/7 on site presence
Fire detection	✓ total fire detection throughout the building
Fire protection	✓ partitioning of the housing rooms, telecom rooms and technical rooms by fire-resistant walls and firebreak doors
	✓ water mist fire protection system for the housing rooms
	✓ specific extinguishers in all rooms and areas
Leak detection	✓ detection throughout the cooling networks
Flood protection	✓ interior and exterior drainage and evacuation systems, no ducting above the housing rooms

BRAIN SERVE
PURE DATACENTER

Electric installations

Guaranteed power supply	10 MVA
Electromagnetic compatibility	Total lightning-protector system, power-peak and residual current protection
Transformer (property of BrainServe SA)	On-site medium-to-low voltage transformer station (5 x 2'500 kVA transformers, N+1 redundancy), at a sufficient distance from the housing and telecom rooms (electrosmog)
High amperage/low voltage distribution	Double electrical grid with transparent switching < 10 ms using load transfer modules (STS). Each rack is connected via energy rails to 2 separate electric control panels (redundancy N+N).
Uninterruptible supply	Each electric distribution branch is protected by dynamic kinetic-energy accumulation inverters (5 x 2'500 kVA NoBreaks, N+1 redundancy). All the cooling systems are fed by an uninterruptible power supply.
Emergency power supply	Each electric distribution branch is protected by a diesel generator (5 x 2'500 kVA generators directly connected to the dynamic inverters, N+1 redundancy), each one redundantly supplied with fuel (2 main tanks + 5 daily tanks making a total of 160'000 liters stored on site, corresponding to 80 hours' autonomy on full load, with complementary supply program).
Available power	• housing rooms: between 1'500 W/m^2 and 3'600 W/m^2 according to the selected room (between 4'000 W and 12'000 W per rack on average; this power can be increased according to the fitting out of the housing area) • telecom rooms: 1'000 W/rack

Cooling installations

Production	4 x 2'500 KW turbo groups (redundancy N+N), 2 free cooling exchangers using external cold air
Distribution	Double iced water distribution network (redundancy N+N)
Air-conditioning units	50 KW per unit for liquid cooling (redundancy N+N), 55 KW per unit for the aeraulic cooling located outside the housing rooms (N+1 redundancy)
Power supply	All the cold production and distribution systems as well as the air-conditioning units are run on an uninterruptible power supply.

Connectivity

Interconnection for operators	4 on-site interconnection rooms
Building access (tubes bundles)	4 separate feeds into the building
Telecom rooms	2 separate rooms within the building, each served by 2 separate interior distributions

SLA

Electricity	99.999% of availability
Temperature	99.99% (24 °C + - 3 °C)
Hygrometry	99.99% (7.8 g/kg +- 1.9 g)

Data center management

Operational organization	based on ISO20000/ITIL approaches
Supervision	24/7 of the infrastructure and all the installations
Detail of the procedures	according to the operating handbook

Non-contractual document prone to modifications